BEAR LAKE MARINA PARKING EXPANSION

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Overview

The purpose of this project is to develop a parking lot for the Bear Lake Marina near Garden City Utah. The Bear Lake Marina is the main access point for motorized recreation in Bear Lake State Park. The main goals include:

- Increasing the parking capacity for trucks with trailers
- Increase pedestrian safety in new parking areas
- Facilitate access between the new parking area and the existing marina

Figure 1. View of existing overflow parking area with marina and lake in background.

Existing Site

The existing marina has 41 spaces for vehicles with trailers to park after launching their boats. After these spaces are filled, vehicles must park in the overflow parking on the west side of Highway 89. This is an unkempt field on top of a hill that can be accessed with a paved road. Several service and support buildings as well as long-term boat storage facilities exist next to the overflow parking.

A rectangular rapid flashing beacon helps pedestrians cross the highway but there are no sidewalks leading to the overflow parking area. The marina also plans to expand to the area directly south of the marina along the highway.

Alternatives

The three locations proposed for the parking area are shown in figure 2 below.

- The Minimum Build Alternative includes area 1.
- The Extended Build Alternative includes areas 1 and 2.
- The South Parking Lot Alternative would involve creating an embankment into the lake and would include area 3.

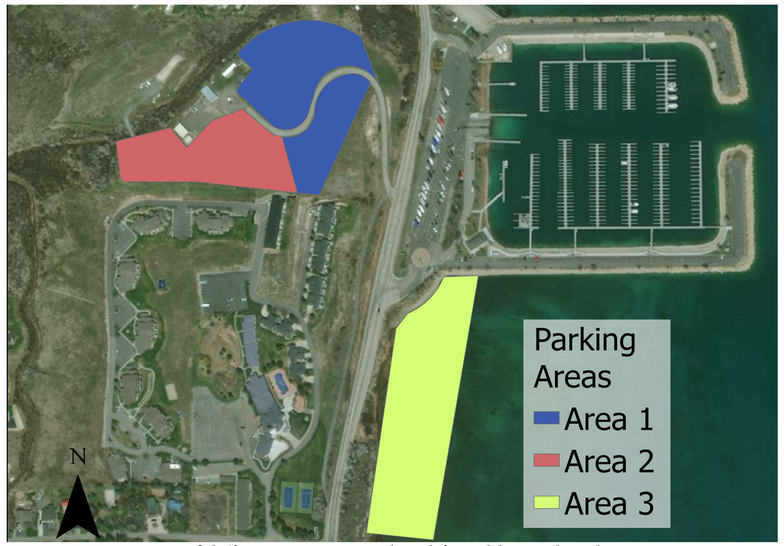

Figure 2. Overview of different areas considered for additional parking.

Criteria

The table below shows a simplified Pugh Matrix comparing our team's alternatives for the parking lot design. Each alternative is given a score of 0 through 3 for each criterion. A 0 score means the alternative does not meet the criterion while a 3 means it best meets the criterion. As shown in the matrix, the Minimum Build Alternative had the best score of 11.

Criteria	Do Nothing	Minimum Build	Extened Build	South Parking Lot
Increased Parking Capacity	0	2	3	2
Parking Accessibility	0	3	2	3
Pedestrian Safety	0	2	2	3
Overall Cost	3	2	1	0
Environmental Impact	3	2	1	0
Total	6	11	9	8

Table 1. Simplified Pugh Matrix used to aid in our team's decision-making process.

Selected Alternative

The alternative that best fit the chosen criteria was the Minimum Build Option. This alternative created the most parking area for the smallest cost. The Minimum Build Option also keeps user safety a priority and has a lesser environmental impact than other alternatives. The total cost of this alternative is estimated to be:

$3,917,288

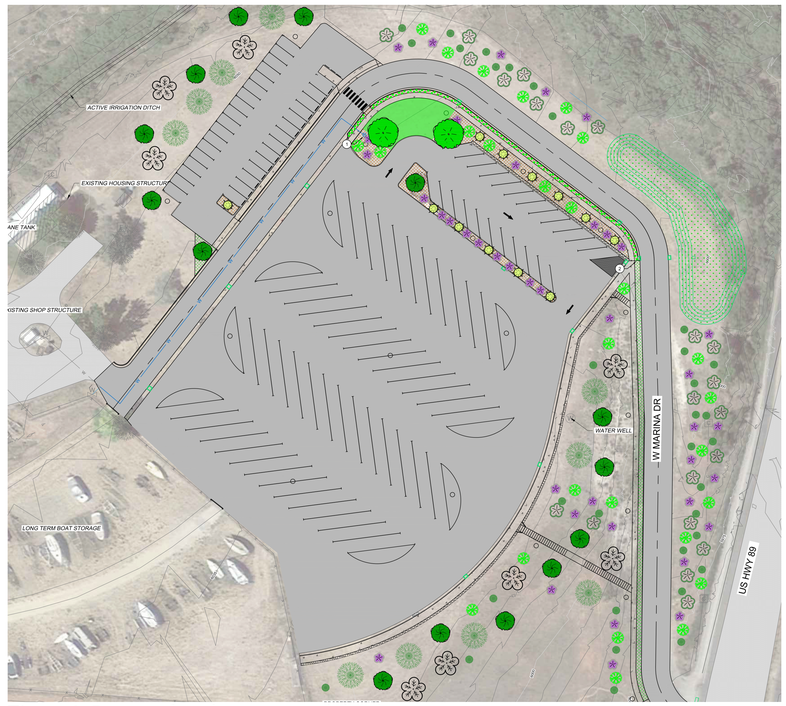

Figure 3. Proposed parking area with landscaping.

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